

PATENT

**AMENDMENTS TO THE CLAIMS, INCLUDING STATUS OF ALL CLAIMS**

**In the Claims:**

Expressly reserving all right to future prosecution of all matter via a related application filed during the pendency hereof, please replace pending Claim 3 with amended Claim 3, and cancel Claims 1-2, 4-13, and 16, as follows:

1. (Cancel)
2. (Cancel)
3. (Currently Amended) A method of inspecting the status of a molded part, comprising the steps of:
  - a. acquiring an infrared thermograph of the part before the part exits the mold;
  - b. utilizing said infrared thermograph to report the temperature of the outside of the part;
  - c. transferring said temperature data to an analyzer;
  - c. analyzing said temperature data; and
  - d. sending a signal to a controller, wherein said controller is responsive to said signal from said analyzer, wherein said analysis of said temperature data further comprises an empirical measurement of a difference between a part surface temperature  $T_S$  and a part center temperature  $T_C$  in view of a glass transition temperature  $T_g$  in order to determine an optimum temperature  $T_{OPT}$  with an optimized cooling time  $t_c$ .

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4. (Cancel)

5. (Cancel)

6. (Cancel)

7. (Cancel)

8. (Cancel)

9. (Cancel)

10. (Cancel)

11. (Cancel)

12. (Cancel)

13. (Cancel)

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14. (Previously Presented) The method of Claim 3, wherein said infrared thermograph is acquired during a mold status selected from the group consisting of: immediately upon mold opening, prior to mold being fully open, and mold fully open.

15. (Previously Presented) The method of Claim 3, wherein said temperature data is transferred to said analyzer by a method selected from the group consisting of spread-spectrum radio frequency, and infrared signal communication platform.

16. (Cancel)

17. (Previously Presented) The method of Claim 16, wherein  $T_{OPT}$  is determined according to the equation:

$$T_g - \Delta T_{(C-S)} - T_{FOS} = T_{OPT}$$

wherein  $T_{FOS}$  is a factor of safety.

18. (Previously Presented) The method of Claim 17, wherein said infrared thermograph of said part provides  $T_s$ , wherein said analyzer compares  $T_s$  is compared to  $T_{OPT}$ , wherein if  $T_s$  is less than  $T_{OPT}$ , said signal from said analyzer directs said controller to decrease the mold close phase by decreasing cooling time  $t_c$ , and wherein if  $T_s$  is greater than  $T_{OPT}$ , said signal from said analyzer directs said controller to increase the mold close phase by increasing cooling time,  $t_c$ .

19. (Previously Presented) The method of Claim 3, wherein said method is repeated for every part-forming cycle.